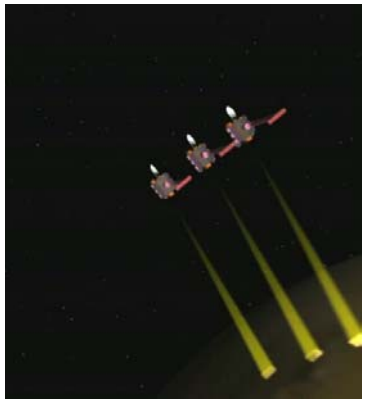
# Mission Planning & Execution

## Overall Objective

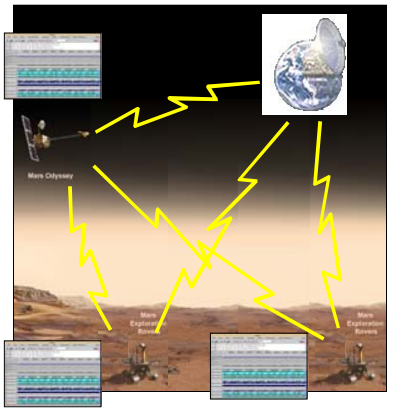
Develop new technology to automate the mission planning and execution process to achieve lower cost operations, improve robustness of operations, and, in some cases, improve the net science data return for missions.

## Goals and Products

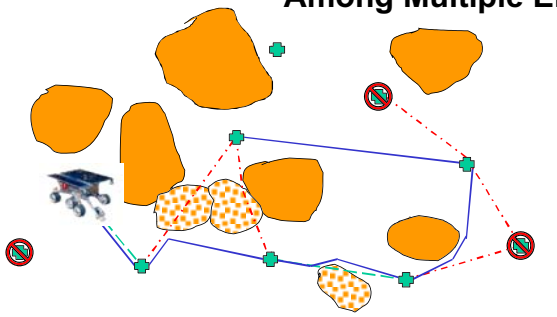
- Continuous automated planning & scheduling technology delivered to the 3 Corner Sat mission for flight validation in 2003
- Software technology for autonomous onboard science applied to simulations of representative planetary mission scenarios to quantify the benefits of TechSat-21 autonomy to deep space exploration
- Closed Loop Execution & Recovery (CLEaR) technology demonstrated on developmental rovers and the DSN Common Automation Engine (CAE)
- Software technology for effective coordination of multiple ground-based planning & scheduling systems demonstrated on Mars mission scenarios



**Autonomous Sciencecraft**



**Coordinated Mission Planning Among Multiple Elements**



**Robust Execution Technology**